

## REMARKS

In accordance with the foregoing, the specification and claims 1-11 are amended and new claim 12 is presented. No new matter has been added and accordingly, entry and approval are respectfully requested.

Claims 1-12 are pending and under consideration. Reconsideration is requested.

### Claim Amendments

Claim 1 is amended herein to recite a "computer-readable recording medium that stores a task control computer program . . . performing: determining whether a non-idle process is included in processes to be executed under control of the operating system based on a process identifier stored in a process control block (PCB) of processes to be executed under control of the operating system, wherein the non-idle process is an executable process waiting for execution as the task under control of the operating system, other than an idle process executed when the operating system proceeds to an idle state; and changing a priority of the task to a higher priority higher than a primary priority of the task when it is determined at the determining that the executable processes include the non-idle process." Independent claims 9-10 are amended in a similar manner. Dependent claims 4-8 are amended accordingly. Support for the amendments is found, for example, on page 12, lines 5-6 and 11-12, page 13, lines 5-8, page 14, lines 13-15, and page 16, lines 12-14 of the specification.

Claim 4 is amended herein to recite a computer-readable recording medium that stores the task control computer program according to claim 1, wherein " . . . determining whether a schedule request for one of the processes to be executed under control of the operating system has been made to the operating system." Support for the amendment is found, for example, in Fig. 5 and page 13 lines 4-17 of the specification.

Claim 5 is amended herein to recite a computer-readable recording medium that stores the task control computer program according to claim 1, "the processes to be executed under control of the operating system." Support for the amendment is found, for example, in Fig. 5 and page 13 lines 4-8 of the specification.

Claim 6 is amended herein to recite a computer-readable recording medium that stores the task control computer program according to claim 1 "wherein . . . one of the processes to be executed under control of the operating system." Support for the amendment is found, for example, in Fig. 5 and page 13 lines 9-11 of the specification.

No new matter has been added and accordingly, entry and approval of amended claims 1-11 are respectfully requested.

**Item 2: Objection to the Specification**

In item 2 of the Office Action, the Examiner objects to the specification:

because it contains an embedded hyperlink and/or other form of browser-executable code (page 1, line 25). Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code.

(Action at page 2, lines 4-6).

The specification is amended herein to delete the document hyperlink. Thus, Applicants request withdrawal of the objection. Applicants point out that the document hyperlink and the document referenced therein are listed in the Information Disclosure Statement (IDS) filed February 25, 2004.

**Items 4-6: Rejection of claims 1-9 and 11 under 35 USC §101**

In items 4-6 of the Office Action, the Examiner rejects claims 1-9 and 11 under 35 U.S.C. §101 asserting:

[C]laims are directed to non- statutory subject matter. As per claim 1 and 9, the claimed computer program and apparatus are software per se, as they are not tangibly embodied on any sort of physical medium. . . .Claims 2-8 and 11 are rejected for similar reasons as discussed for their respective parent claims.

(Action at page 2, lines 14-19). The rejection is traversed.

Independent claim 1 is amended herein to recite to recite a "computer-readable recording medium that stores a task control computer program" including computer executable instructions which when executed by a computer, cause the computer to execute an operating system as a task . . ." Dependent claims 2-8 and 11 are amended accordingly.

Applicants point out that independent claim 9 recites a "task control apparatus." Applicants submit that an apparatus is statutory subject matter. Support for such a task control apparatus is found for example on page 20, lines 12-16 of the specification.

**Summary**

Applicants submit that claims 1-9 and 11 comply with 35 U.S.C. §101, and thus withdrawal of the rejection is requested.

**Item 8: Rejection of claims 1-11 under 35 USC §112, second paragraph**

In item 8 of the Office Action, the Examiner rejects claims 1-11 under 35 USC §112, second paragraph. (Action at pages 3-4). The rejection is traversed.

In items 8. i.-iii. a, the Examiner asserts, the following terms lack antecedent basis:

The process - claim 5. . . .The current process- claim 6 . . .The primary priority- claim 9, 10.

(Action at page 3, lines 8-12).

Claim 5 is amended herein to replace the term "the-process" with the phrase --the processes to be executed under control of the operating system--. Claim 6 is amended herein to replace the phrase "the current process" with the phrase --one of the processes to be executed under control of the operating system--.

Claim 9 is amended herein to replace the term "the primary priority" with the term --a primary priority--. Claim 10 is amended herein in a similar fashion.

In item 8. b., the Examiner asserts the claim language is not clearly understood. (Action at pages 3-4). In item 8.b. iv. of the Office Action, the Examiner asserts:

[P]er claim 1, lines 5, it is unclear what is meant by "a non-idle process". . . Line 6, it is unclear what is meant by "executable processes to be executed". . . Line 8, it is unclear what is meant by "a set priority". . . Line 9, it is unclear what is meant by "an operating system task". . . unclear the relationship between "operating system task" and the "non-idle process".

(Action at page 3, lines 13-22).

Independent claim 1 is amended herein to address the Examiner's concerns and recite a computer-readable recording medium that stores a task control computer program "performing: determining whether a non-idle process is included in processes to be executed under control of the operating system based on a process identifier stored in a process control block (PCB) of processes to be executed under control of the operating system, wherein the non-idle process is an executable process waiting for execution as the task under control of the operating system, other than an idle process executed when the operating system proceeds to an idle state; and changing a priority of the task to a higher priority higher than a primary priority of the task when it is determined at the determining that the executable processes include the non-idle process."

In item 8. b. v. of the Office Action, the Examiner asserts:

[P]er claim 4, line 5, it is unclear whether "a schedule request" for the executable process or the non-idle process.

(Action at lines 5-6).

Claim 4 is amended herein to address the Examiner's concerns and recite a computer-readable recording medium that stores the task control computer program "... determining whether a schedule request for one of the processes to be executed under control of the operating system has been made to the operating system..."

In item 8. b. vi. of the Office Action, the Examiner asserts:

[P]er claim 5, line 9, "PCB of the process", it is unclear which process is referred to here, is it the non idle process or the executable processes.

(Action at lines 7-8).

Claim 5 is amended herein to address the Examiner's concerns and recite a computer-readable recording medium that stores the task control computer program ". . . the determining whether the non-idle process is executable under the control of the operating system is based on a process identifier stored in a process control block (PCB) of the processes to be executed under control of the operating system."

In item 8. b. vi., the Examiner asserts:

[P]er claim 6, line 14, it is unclear what is the relation between "the current process", the non idle process and the executable processes.  
(Action at lines 9-10).

Claim 6 is amended herein to address the Examiner's concerns and recite a computer-readable recording medium that stores the task control computer program according to claim 4, wherein the determining whether the schedule request has been made to the operating system is based on a schedule request flag stored in a process control block of one of the processes to be executed under control of the operating system."

In item 8. b. viii., the Examiner asserts:

[P]er claim 7, line 19, it is not clearly understood what is meant by "a global area of the operating system. "  
(Action at lines 11-12).

Claim 7 is amended herein to address the Examiner's concerns and recite computer-readable recording medium that stores the task control computer program according to claim 4, wherein the determining whether an interruption request has been made to the operating system is based on an interruption request flag set when an interruption to the operating system is required.

In item 8. b. ix., the Examiner asserts:

[P]er claim 8, it is unclear what does the primary priority belong to? Does it belong to the operating system task or the non-idle process?  
(Action at lines 13-14).

Claim 8 is amended herein to address the Examiner's concerns and recite a computer-readable recording medium that stores the task control computer program according to claim 1, wherein the primary priority of the task is changed to the higher priority when a predetermined period of time has elapsed after it is determined that there is an executable non-idle process.

In item 8. b. x., the Examiner asserts:

[P]er claim 9, it has the same deficiency as claim 1. Furthermore, line 8, it is not clearly understood whether "an executable non-idle process" is the same as "a non idle process" of line 11 (if it is the same, it should be referred to as

said executable non- idle process).

(Action at lines 15-18).

Claim 9 is amended herein to address the Examiner's concerns and to recite a task control apparatus for causing a computer to execute an operating system as a task, comprising: "a determining unit that determines whether a non-idle process is executable under control of the operating system based on a process identifier stored in a process control block (PCB) of processes to be executed under control of the operating system, wherein the non-idle process is an executable process waiting for execution as the task under control of the operating system, other than an idle process executed when the operating system proceeds to an idle state; and a changing unit that changes a priority of the task to a priority higher than a primary priority of the operating system task when the determining unit determines that the non-idle process is executable."

In item 8. b. xi., the Examiner asserts:

[P]er claim 10, it has the same deficiency as claim 1. Furthermore, line 16, it is not clearly understood whether "an executable non-idle process" is the same as "a non idle process" of line 13.

(Action at lines 19-21).

Claim 10 is amended herein to address the Examiner's concerns and to recite a task control method for causing a computer to execute an operating system as a task, comprising: determining whether processes to be executed under control of the operating system include a non-idle process based on a process identifier stored in a process control block (PCB) of processes to be executed under control of the operating system, wherein the non-idle process is an executable process waiting for execution as the task under control of the operating system, other than an idle process executed when the operating system proceeds to an idle state; and changing a priority of the task to a priority higher than the primary priority of the task when it is determined that the executable processes include the non-idle process."

## Summary

Applicants submit that claims 1- 11 comply with 35 USC §112, second paragraph and thus withdrawal of the rejection is requested.

**Items 10-24: Rejection of claims 1-4 and 7-11 under 35 U.S.C. §103(a) as being unpatentable over Saito et al. (US 2005/0149933) in view of Prasad et al. (US 2004/0117791)**

**Items 25-29: Rejection of claim 5-6 under 35 U.S.C. §103(a) as being unpatentable over Saito in view of Prasad and Herrington et al. (US 4,435,780)**

In items 10-29 of the Office Action, the Examiner rejects claims 1-11 under 35 U.S.C. 103(a) as being unpatentable over Saito in view of combinations of Prasad and Herrington.

(Action at pages 5-9). The rejections are traversed.

Independent claim 1 recites a computer-readable recording medium that stores a task control computer program including computer executable instructions which when executed by a computer, cause the computer to execute an operating system as a task by performing:

a) "determining whether a non-idle process is included in processes to be executed under control of the operating system based on a process identifier stored in a process control block (PCB) of processes to be executed under control of the operating system, wherein the non-idle process is an executable process waiting for execution as the task under control of the operating system, other than an idle process executed when the operating system proceeds to an idle state;" and

b) " changing a priority of the task to a higher priority higher than a primary priority of the task when it is determined at the determining that the executable processes include the non-idle process." Independent claims 9-10 have similar recitations.

Applicants submit that none of the art relied on by the Examiner, alone or in *arguendo* combination teach features recited by each of the independent claims. The Action concedes that Saito does not teach

determining whether a non-idle process is included in executable processes to be executed under control of the operating system.

(Action at page 5, lines 17-20).

But, the Examiner asserts that Prasad teaches:

determining whether a non-idle process is included in executable processes to be executed under control of the operating system . . . would have been obvious . . . to have combined the teaching of Saito and Prasad because Prasad 's teaching of detecting the process that has been waiting to be executed would improve system performance and stability of Saito's system by eliminating the queue latency.

(Action at page 6, lines 1-4).

Applicants submit that the Examiner's interpretation of Prasad is in error. By contrast, Prasad merely teaches

A single timer embodiment also achieves the desired result of causing one or more low priority tasks to be executed within a prescribed time period while minimally interfering with the execution of higher priority tasks while requiring less memory or area overhead than D N-bit counters. . . . counter may count clock cycles and so may also be referred to as a timer. The value of that timer when a task is added to the queue may be stored in memory as a timestamp along with the entry in the queue. The queue may operate such that each task enters the queue in the order they are received with the oldest task residing at the head of the queue. Thus, the timer may be compared to the timestamp of the task at the head of the queue. When the difference between the timer and the timestamp of the task at the head of the queue is greater than the desired service latency

threshold, a priority inversion may occur. When the priority inversion occurs, the task at the head of the queue may be performed even if its priority is less than one or more other tasks in that or another queue. In that way, no task will remain queued for longer than the service latency threshold.

(Emphasis added, See, for example, paragraph [0030]).

That is, Prasad merely teaches a determining whether a non-idle process is included in executable processes to be executed under control of the operating system and not determining whether a non-idle process is included in executable processes to be executed under control of the operating system as the Examiner asserts.

Herrington is relied on by the Examiner as teaching whether a non-idle process is executable executable under the control of the operating system is based on a process identifier stored in a process control block (PCB) and does not satisfy the deficiency noted above.

Thus, Applicants submit that even an *arguendo* combination of the cited art does not teach a "determining whether a non-idle process is included in processes to be executed under control of the operating system based on a process identifier stored in a process control block (PCB) of processes to be executed under control of the operating system, wherein the non-idle process is an executable process waiting for execution as the task under control of the operating system, other than an idle process executed when the operating system proceeds to an idle state," as recited by claim 1, for example.

Applicants submit this traversal meets the Consideration of Applicant's Rebuttal Evidence Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.* of October 3, 2007 and the elements in combination do not merely perform the function that each element performs separately, and the results of the claimed combination were unexpected.

### **Summary**

Since features recited by independent claims 1, 9, and 10 (and dependent claims 2-8 and 11) are not taught by even a combination of the art relied on by the Examiner, the rejection should be withdrawn and claims 1-11 allowed.

### **New Claim**

New claim 12 recites features of the present invention in a different manner. New claim 12 recites a task control method for causing a computer to execute an operating system as a task including "raising a priority of a task upon determining processes to be executed under control of the operating system include a non-idle, executable process other than an idle process executed when the operating system proceeds to an idle state and based on an identifier stored

in a control block executed by the operating system. "

Support for claim 12 is found, for example, page 12, lines 5-6 and 11-12, page 13, lines 5-8, page 14, lines 13-15, and page 16, lines 12-14 of the specification.

These, and other, features of claim 12 patentably distinguish over the cited art, and they are submitted to be allowable for the recitations therein.

### Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

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By: Paul W. Bobowiec  
Paul W. Bobowiec  
Registration No. 47,431

1201 New York Avenue, N.W., 7th Floor  
Washington, D.C. 20005  
Telephone: (202) 434-1500  
Facsimile: (202) 434-1501